

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-32 (Canceled).

Claim 33 (New): An electronic emission device including plural electron beams comprising:

a first structure comprising a plurality of emitting sources of electron beam hybridized with a second structure comprising a plurality of diaphragm openings.

Claim 34 (New): The device according to Claim 33, in which the second structure includes an electrode or a metallic or conductive or semiconductive membrane.

Claim 35 (New): The device according to Claim 33, in which hybridization between the first and the second structure is carried out by interposition of metallic balls made from fusible metal alloys and/or balls made from gold.

Claim 36 (New): The device according to Claim 33, in which hybridization between the first and the second structure is carried out by interposition of one or more films with anisotropic conduction.

Claim 37 (New): The device according to Claim 33, in which at least one diaphragm opening has two different opposite opening surfaces, the opening surface of a first side of the diaphragm having an area greater than an area of the opening surface of a second side of the diaphragm.

Claim 38 (New): The device according to claims 33, in which each diaphragm opening comprises a bevelled, flat, concave, or convex opening edge profile.

Claim 39 (New): The device according to claim 33, in which each structure comprises a periodic arrangement of sources of emission of electrons or diaphragm openings, the structures having a matricial arrangement or a multilinear arrangement or a linear arrangement, regular or irregular.

Claim 40 (New): The device according to Claim 33, in which the sources of electron beam emission and the diaphragm openings are arranged with a spacing of about a few microns to one millimeter.

Claim 41 (New): The device according to Claim 33, further comprising electrostatic or magnetic or electromagnetic means for focusing electron beams.

Claim 42 (New): The device according to Claim 33, further comprising means for magnetic projection.

Claim 43 (New): The device according to Claim 33, further comprising a polarized anode or electrode structure arranged outside the second structure of diaphragm openings.

Claim 44 (New): The device according to Claim 33, in which the second structure comprises at least one conductive part and at least one dielectric part.

Claim 45 (New): The device according to Claim 33, in which the second structure comprises two levels of electrodes or membranes, metallic, conductive, attached to at least one dielectric layer.

Claim 46 (New): The device according to Claim 33, in which the second structure includes, around zones of the diaphragm openings, a thickness of about a fraction of a micrometer to a few hundred micrometers.

Claim 47 (New): The device according to Claim 33, in which the second structure includes, outside zones of the diaphragm openings, a thickness of about one micrometer to around one millimeter.

Claim 48 (New): The device according to Claim 33, in which the second structure includes an alveolar structure insulating each opening or plural groups of openings from one another, such that each opening or each group of openings is subjected to a respective polarization potential.

Claim 49 (New): The device according to Claim 33, in which at least one side of the diaphragm of the second structure is dipped into an electric field for acceleration or focusing of electrons.

Claim 50 (New): The device according to Claim 33, in which the second structure of diaphragm opening comprises two opposite sides, a first side facing an electric field, and a second side facing another electric field.

Claim 51 (New): The device according to Claim 33, in which at least one diaphragm opening has two different opposite opening surfaces, the opening surface of a first side of the diaphragm having an area greater than an area of the opening surface of the second side of the diaphragm, at least one side of the diaphragm of the second structure is dipped into an electric field for acceleration or focusing of electrons, and the diaphragm openings are oriented such that the opening surface of greater area faces the electric field of greater value, the opening surface of lesser area facing the electric field of less value or in absence of an electric field.

Claim 52 (New): The device according to Claim 33, in which each diaphragm opening comprises a bevelled, flat, concave, or convex opening edge profile, at least one side of the diaphragm of the second structure is dipped into an electric field for acceleration or focusing of electrons, and the diaphragm openings are oriented such that the opening surface of greater area faces the electric field of greater value, the opening surface of lesser area facing the electric field of less value or in absence of an electric field.

Claim 53 (New): The device according to Claim 33, in which at least one diaphragm opening has two different opposite opening surfaces, the opening surface of a first side of the diaphragm having an area greater than an area of the opening surface of a second side of the diaphragm, in which the second structure of diaphragm opening comprises two opposite sides, a first side facing an electric field, a second side facing another electric field, and the diaphragm openings are oriented such that the opening surface of greater area faces the electric field of greater value, the opening surface of lesser area facing the electric field of less value or in absence of an electric field.

Claim 54 (New): The device according to Claim 33, in which each diaphragm opening comprises a bevelled, flat, concave, or convex opening edge profile in which the second structure of diaphragm opening comprises two opposite sides, a first side facing an electric field, a second side facing another electric field, and the diaphragm openings are oriented such that the opening surface of greater area faces the electric field of greater value, the opening surface of lesser area facing the electric field of less value or in absence of an electric field.

Claim 55 (New): The device according to Claim 33, in which the second structure is subjected to at least one polarization potential.

Claim 56 (New): An electronic emission device including plural electron beams comprising:

a first structure comprising a plurality of emitting sources of electron beam hybridized with a second structure comprising a plurality of diaphragm openings,

in which the first structure comprises a substrate, a cathode, electron emitter means, and an extraction grid, and

in which the second structure forms current collection means, insulated from the extraction grid and configured to collect part of the current emitted by the emitter means, measuring means of the current collected, and means for control, as a function measuring the collected current, of the current emitted by the electron emitter means.

Claim 57 (New): The device according to Claim 56, the electron emitter means comprising at least one micro-point or one nanotube.

Claim 58 (New): The device according to Claim 56, in which the current control means emitted by the electron emitter means comprises pulsed polarization means of the extraction grid.

Claim 59 (New): The device according to Claim 56, in which the current control means emitted by the electron emitter means comprises pulsed polarization means of the cathode.

Claim 60 (New): The device according to Claim 56, in which the substrate is a CMOS substrate.

Claim 61 (New): The device according to Claim 56, in which the substrate is a CMOS substrate and comprising electrical crossing enabling to connect the collection means and the extraction grid to the CMOS substrate.

Claim 62 (New): The device according to Claim 56, in which hybridization between the first and the second structure is carried out by interposition of metallic balls made from fusible metal alloys and/or balls made from gold, and in which the collection means are connected by electrical and mechanical interconnection means formed by the balls or a pillar to a conductive zone.

Claim 63 (New): The device according to Claim 56, in which hybridization between the first and the second structure is carried out by the interposition of metallic balls made from fusible metal alloys and/or balls made from gold, and in which the collection means are

connected by electrical and mechanical interconnection means formed by the balls or a pillar to a conductive zone, and the current-measuring means are located in the substrate.

Claim 64 (New): The device according to Claim 56, the current-measuring means being made on a substrate on which the collection means are located.

Claim 65 (New): The device according to Claim 56, the current-measuring means comprising an amplifier on which a condenser or a resistor is mounted in counter-reaction.

Claim 66 (New): The device according to Claim 56, the current-measuring means comprising an amplifier on which a condenser or a resistor is mounted in counter-reaction and the current-measuring means comprising a measuring setup by current mirror.

Claim 67 (New): The device according to Claim 56, the current-measuring means comprising an amplifier on which a condenser or a resistor is mounted in counter-reaction and the current-measuring means comprising a measuring setup by current mirror and the openings being circular or comprising circular sectors.